

Analytical Data Package Prepared For

## 105KE Reactor Characterization

Analysis Provided By

*TestAmerica*

2800 George Washington Way

Richland WA, 99354

(509)375-3131

Assigned Laboratory Code: TARL

SDG Number: W05895

## Certificate of Analysis

105KE Reactor Characterization  
P.O. Box 1000, T6-03  
Richland, WA 99352

May 17, 2010

Attention: John Trechter

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SAF Number	:	D10-010
Date SDG Closed	:	May 13, 2010
Number of Samples	:	Four (4)
Sample Type	:	Wipes
SDG Number	:	W05895
Data Deliverable	:	3/15 Day

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### CASE NARRATIVE

#### I. Introduction

On May 13, 2010, four samples were received at TestAmerica for radiochemical analysis. Upon receipt, the samples were assigned to lot J0E130575 and assigned the following laboratory ID number to correspond with the CHPRC specific ID:

<u>FH ID#</u>	<u>TARL ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
3	L1GPH	WIPES	5/13/10
5	L1GRX	WIPES	5/13/10
9	L1GT0	WIPES	5/13/10
18	L1GT6	WIPES	5/13/10

#### II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

#### III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

**Liquid Scintillation Counting**  
Tritium and Carbon-14

**IV. Quality Control**

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

**V. Comments**

The samples were analyzed as received.

**Liquid Scintillation Counting**

Tritium:

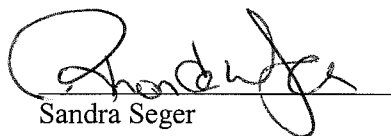
The LCS, batch blank and sample results are within contractual requirements.

Carbon-14:

The LCS, batch blank and sample results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:



Sandra Seger  
Project Manager

for

W05895

batch_nbr	client ID	work_order_nbr	Sample_count _date_time	H-3 pCi/sample	H-3 LCS %rec	C-14 pCi/sample	C-14 LCS %rec
134141	3	L1GPH2AA	5/16/2010 6:26	1.30E+04		9.84E+03	
134141	5	L1GRX2AA	5/16/2010 6:37	9.86E+03		1.05E+03	
134141	9	L1GT02AA	5/16/2010 6:47	1.36E+04		1.01E+04	
134141	18	L1GT62AA	5/16/2010 6:58	2.83E+03		2.16E+03	
134141		INTRA-LAB BLANK	5/16/2010 7:09	3.56E+00		6.41E+00	
134141		INTRA-LAB CHECK	5/16/2010 7:19	6.88E+01	103%	7.05E+01	104%



RADIOACTIVE SHIPMENT RECORD				3. Page 1 of 1		4. Ship Prepaid		5. Via Motor	
1. SHIP FROM U.S. DEPT. OF ENERGY C/O Company <u>CHPRC</u> Address <u>K Basin</u> City, State, Zip <u>Hanford</u> Contact <u>Mary Ann Green</u> Phone <u>(509) 480-1567</u>				2. SHIP TO <input type="checkbox"/> U.S. DEPT. OF ENERGY C/O Company <u>TestAmerica</u> Address <u>2800 G.Way</u> City, State, Zip <u>Richland Wash 99352</u> Attention <u>Sample receiving</u> Phone <u>509 375-3131</u>				6. SHIPMENT AUTHORIZATION N/A NUMBER 7. EMERGENCY RESPONSE Telephone <u>373-3800</u> Emergency Response Guide(s) <u>N/A</u>	
HM 8. Proper Shipping Name: <u>Material Not Regulated By DOT- Not Releasable By DOE</u> PRI HAZ <u>N/A</u> SUB HAZ <u>N/A</u> UN ID <u>N/A</u>									
9. No. Pkg.	Model Package	COC/Spec	Serial No.	Seal No.	Isotopes	C.S.I.	T.I.	Bq/Package	Gr. Wt. Kg.
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10. Identify for Normal Form Only		11. <input type="checkbox"/> Highway Route Controlled Quantity <input type="checkbox"/> Exclusive Use Shipment with instructions <input type="checkbox"/> Placards Applied <u>N/A</u> <input type="checkbox"/> Fissile Excepted, Grams <u>N/A</u> <input type="checkbox"/> UN ID Marking <u>N/A</u>				12. LABELS APPLIED <u>N/A</u>			
Physical Form <u>Solid</u>						13. ADDITIONAL LABELS / MARKINGS <u>N/A</u>			
Chemical Form <u>Elemental</u>									
HM 8. Proper Shipping Name: <u>Material Not Regulated By DOT- Not Releasable By DOE</u> PRI HAZ <u>N/A</u> SUB HAZ <u>N/A</u> UN ID <u>N/A</u>									
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Physical Form						13. ADDITIONAL LABELS / MARKINGS			
Chemical Form									
14. Shipment DE-Ci:					Shipment Totals	C.S.I.	T.I.	Bq/Package	Gr. Wt. Kg.
15. Surface Dose Rate of Package <input checked="" type="checkbox"/> <0.005 or _____ mSv/hr _____ or _____ mrem/hr (N+β γ)		Dose Rate @ 1 Meter from Surface of Package <input checked="" type="checkbox"/> <0.005 or _____ mSv/hr _____ or _____ mrem/hr (N+β γ)		Smears of Outer Container <input checked="" type="checkbox"/> <4.0 Bq (220 dpm) β γ /cm <sup>2</sup> <input checked="" type="checkbox"/> <0.4 Bq (22 dpm) α /cm <sup>2</sup> <input checked="" type="checkbox"/> <Tbl. 2-2 HNF-5173 Limits		TRUCK LOAD OR EXCLUSIVE USE Surface <input checked="" type="checkbox"/> <2 mSv/hr (200 mrem/hr) @ 2 meters <input checked="" type="checkbox"/> <0.1 mSv/hr (10 mrem/hr) @ Cab or sleeper <input checked="" type="checkbox"/> <0.02 mSv/hr (2 mrem/hr) (Using N+β γ)			
Additional Data and Instructions (Inc. Readings on Internal Packaging)				Bldg. <u>M0-1112</u> Survey No. <u>FD-K100715</u> Date <u>5/13/10</u>					
16. TRANSPORTER Vehicle Number <u>643 3580F</u> DRIVER SIGNATURE <u>[Signature]</u> PRINT NAME <u>Gerald Hughes</u>		17. RECEIVER RECEIVER SIGNATURE <u>[Signature]</u> PRINT NAME <u>ANGEL B</u> Date <u>5/13/10</u>							
18. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Certifier's Signature <u>[Signature]</u> Print Name <u>John Hesson</u> On behalf of DOE-RL Date <u>5-13-10</u> Organization <u>K Basins</u>									
19. AUTHORIZATION FOR SHIPMENT AIR TRANSPORT CERTIFICATION <input type="checkbox"/> N/A CARGO AIRCRAFT <input type="checkbox"/> Cargo Aircraft Only Labels Applied PASSENGER AIRCRAFT <input type="checkbox"/> Ltd Qty <input type="checkbox"/> Research/Medical Diagnosis <input type="checkbox"/> <3 T.I. <input type="checkbox"/> Human Medical Research Pkg. Dimensions (cm)									
20. OFFSITE AUTHORIZATION Survey No. Date Shipped Routing ETA Approved for Shipment Offsite Date									

## Sample Check-in List

1335  
Date/Time Received: 5/13/10 GM Screen Results (out) 3 (in) 4 Initials MB

Client: RUSA <sup>#</sup> 51310 SDG #: W05895 NA [ ] SAF #: D10-010 NA [ ]

Work Order Number: 00E130575 Chain of Custody # N/A

Shipping Container ID: N/A NA [ ] Air Bill # N/A NA [ ]

Item 1 through 5 for shipping container only. Initial appropriate response.

1. Custody Seals on shipping container intact? Yes ☒ No [ ] No Custody Seal [ ]
2. Custody Seals dated and signed? Yes ☒ No [ ] No Custody Seal [ ]
3. Chain of Custody record present? Yes ☒ No [ ]
4. Cooler temperature: 9°C NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry ☒

Item 6 through 10 for samples. Initial appropriate response.

6. Number of samples in shipping container (Each sample may contain multiple bottles): 4
7. Sample holding times exceeded? NA [ ] Yes [ ] No ☒

8. Samples have:  
☒ tape  
☒ custody seals  
☒ hazard labels  
☒ appropriate sample labels

9. Samples are:  
☒ in good condition  
☐ broken  
☐ leaking  
☐ have air bubbles  
 (Only for samples requiring head space)

(C14)  
H3

10. Sample pH taken? NA [ ] pH<2 [ ] pH>2 ☒ pH>9 [ ] Amount of HNO3 Added

11. Sample Location, Sample Collector Listed? \*  
 \*For documentation only. No corrective action needed. Yes ☒ No [ ]

12. Were any anomalies identified in sample receipt? Yes [ ] No ☒

13. Description of anomalies (include sample numbers): NA ☒

see other side for additional comments

Sample Custodian Angela Cuccia Date: 5/13/10 1335

Client Informed on N/A by N/A Person contacted N/A

[ ] No action necessary; process as is.

Project Manager Rhonda J. Allen Date 5/14/10